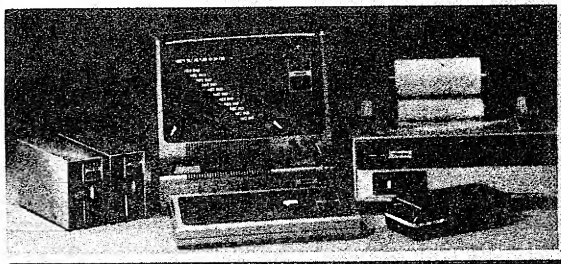


# TRS-80<sup>TM</sup> SOFTWARE CATALOG NO. 3



**H & E COMPUTRONICS, INC.**

**MACHINE LANGUAGE PROGRAMS**

# H & E COMPUTRONICS INC.

MATHEMATICAL APPLICATIONS SERVICE™

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DEAR TRS-80 OWNER:

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(1) A NEW ISSUE EVERY MONTH OFFERING LISTINGS OF MAJOR PROGRAMS, A BEGINNERS CORNER, HELP IN LEARNING MACHINE LANGUAGE, BUSINESS PROGRAMS AND AIDS, LATEST INFORMATION ABOUT NEW RADIO SHACK PRODUCTS (AND INSIDE INFORMATION ABOUT PRODUCTS NOT YET RELEASED), HELPFUL HINTS AND ADVICE...AND MUCH MORE.

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(5) PHONE ORDERS ARE ACCEPTED (24-HOURS PER DAY). ORDERS TAKEN BY MARYANN, OUR SOFTWARE MANAGER (9 AM TO 5 PM-NEW YORK TIME-MONDAY-SATURDAY). AT OTHER TIMES, A TELEPHONE ANSWERING MACHINE WILL TAKE YOUR ORDER.

(6) ALL SUBSCRIBERS WILL RECEIVE VOLUME III OF THE H & E COMPUTRONICS INC. SOFTWARE CATALOG WHICH WILL INCLUDE A NUMBER OF NEW PRODUCTS (HARDWARE & SOFTWARE).

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for users of  
**Radio Shack's TRS-80\***



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for users of  
**Radio Shack's TRS-80\***

# TRS-80 TRANSFORMED WITH PROFESSIONAL SOFTWARE PACKAGES

## AND MUCH MORE

**CP/M-operating system** modified for use with TRS-80 computer and disks. In addition to the standard CP/M utilities of Editor, Assembler, Debugger, etc., we have added: DCV2 (Utility to convert system tapes to CP/M files), DISKAS & CASDISK (Utilities to back up files to tape and recover to disk), MOVER (Program to transfer files with single drive systems) **\$145/\$25**

**All items listed below operate in conjunction with the CPM operating system.**

**MAC** — 8080 Macro Assembler. Full Intel macro definitions. Pseudo Ops include RPC, IRP, REPT, TITLE, PAGE, and MACLIB. 2.80 library included. Produces Intel absolute hex output plus symbols file for use by SID (see below) **\$100/\$15**

**SID** — 8080 symbolic debugger. Full trace, pass count and break point program testing system with back-trace and histogram utilities. When used with MAC, provides full symbolic display of memory labels and equated values **\$85/\$15**

**TEX** — Text formatter to create paginated, page-numbered display of memory labels and equated values **\$85/\$15**

**DESPOOL** — Program to permit simultaneous printing of data from disk while user executes another program from the console **\$50/\$1**

**Disk Extended BASIC** — Version 5 ANSI compatible with long variable names, WHILE/WEND chaining, variable length file records **\$300/\$25**

**BASIC Compiler** — Language compatible with Version 5 Microsoft interpreter and 3-10 times faster execution. Produces standard Microsoft relocatable binary output. Includes Macro-80. Also linkable to FORTRAN-80 or COBOL-80 code modules **\$350/\$25**

**FORTRAN-80** — ANSI 66 (except for COMPLEX) plus many extensions. Includes relocatable object compiler, linking loader library with manager. Also includes MACRO-80 (see below) **\$400/\$25**

**COBOL-80** — ANSI 74 Relocatable object output. Format same as FORTRAN-80 and MACRO-80 modules. Complete ISAM interactive ACCEPT/DISPLAY COPY/EXTEND **\$625/\$25**

**MACRO-80** — 8080 Z80 Macro Assembler. Intel and Zilog mnemonics supported. Relocatable linkable output. Loader Library Manager and Cross Reference List utilities included **\$149/\$15**

**EDIT-80** — Very fast random access text editor for text with or without line numbers. Global and intra-line commands supported. File compare utility included **\$89/\$15**

**PAYROLL SYSTEM** — Maintains employee master file. Computes payroll withholding for FICA, Federal and State taxes. Prints payroll register, checks, quarterly reports and W-2 forms. Can generate ad hoc reports and employee form letters with mail labels. Requires CBASIC. Supplied in source code **\$605/\$35**

**APARTMENT MANAGEMENT SYSTEM** — Financial management system for receipts and security deposits of apartment projects. Captures data on vacancies, revenues, etc. for annual trend analysis. Daily report shows late rents, vacancy notices, vacancies, income lost through vacancies, etc. Requires CBASIC. Supplied in source code **\$605/\$35**

**INVENTORY SYSTEM** — Captures stock levels, costs, sources, sales, ages, turnover, markup, etc. Transaction information may be entered for reporting by salesman, type of sale, date of sale, etc. Reports available both for accounting and decision making. Requires CBASIC. Supplied in source code **\$605/\$35**

**CASH REGISTER** — Maintains files on daily sales. Files data by sales person and item. Tracks sales, overruns, refunds, payouts, and total net deposits. Requires CBASIC. Supplied in source code **\$605/\$35**

**CBASIC-2** Disk Extended BASIC — Non-interactive BASIC with pseudo-code compiler and runtime interpreter. Supports full file control, chaining, integer and extended precision variables, etc. **\$90/\$15**

**Flippy Disk Kit** — Template and instructions to modify single sided 5 1/4" diskettes for use of second side in singled sided drives **\$975**

**Selector III** — Multi-file (up to 24) Key Data Base Processor. Comes with applications programs including Sales, Activity Inventory, Payables, Receivables, Check Register, Expenses, Appointments, and Client Patent. Requires CBASIC. Supplied in source code. Enhanced version for CBASIC-2 **\$345/\$20**

## G2 Level III BASIC by Microsoft

Powerful extensions to Level II BASIC including: 10 machine language user calls, long error messages, keyboard daisy-rolling, graphics commands and much more. Price includes User Manual, a Quick Reference Card and a pre-programmed cassette tape **\$45**

Lifeboat Associates, specialists in microcomputer disk software, is proud to offer the first professional disk-based language and utility package for the Radio Shack TRS-80 computer. Written by Microsoft, creators of Level II BASIC, the package runs on a TRS-80 system with 32K RAM, one or more drives and TRSDOS. The software is supplied on diskettes and consists of:

**FORTRAN** a true relocatable machine code compiler for ANSI FORTRAN X3.9 (except COMPLEX variables)

**MACRO ASSEMBLER** a disk-based macro assembler utilizing Zilog mnemonics and producing relocatable code

**LINKING LOADER** to link-edit and load FORTRAN and assembler modules for execution

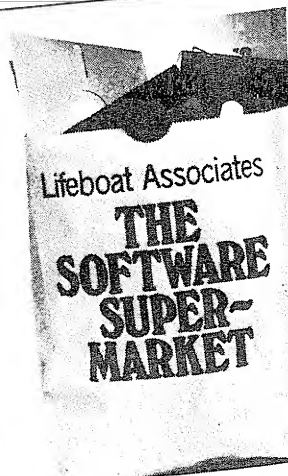
**SUBROUTINE LIBRARY** a complete library of subroutines existing as relocatable linkable modules for FORTRAN or assembler programs—e.g., double precision square root, natural log, transcendental, etc.

**DISK TEXT EDITOR** to create and modify FORTRAN and assembler programs as disk files. Also can be used as a general purpose text editor for correspondence and other documents

This high-powered professional software package with full documentation is available at the  
**DISCOUNT PRICE OF \$150.** PER COMPUTER SYSTEM

The Macro Assembler, Loader, Editor, and Cross Reference Utilities alone **\$80**

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Please send the following:

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manual alone	
shipping	
UPS C.O.D. \$1 for C.O.D.	
MasterCharge	
Total	

Account #

Exp. Date

Signature

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Name

Address (No P.O. Box)

City

State

Zip

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# CHECKBOOK II

BY ALAN MEYERS

FOR LEVEL II 16K & 32K TAPE BASED  
TRS-80'S

The technical expertise of TBS has been synthesized into a program that upgrades checkbook analysis to an interesting, informative and fun portion of your regimen. This program outshines the other programs of its type to such a degree that it is a new category of checkbook analysis for the consumer. FEATURING:

- \* Keyboard input with 5 character spaces for check number, 16 for whom to, 4 for code plus the ability to handle amounts up to \$99,999.99.
- \* Graphic listing of checks in memory starting at any given check number.
- \* Complete editing mode allowing changes in any or all columns plus deletion module.
- \* Checkbook balancing with balance brought forward held in memory and recorded on tape. Program will handle balances up to \$999,999.99. Graphic screen printout starting at any given check number.
- \* Bank reconcile with listing of all outstanding checks. Program automatically deletes all cleared checks if checkbook balances.
- \* Search and total routine with the capability of searching all checks in memory or an entire month, by date, check number, whom to or code.
- \* Tape input/output with the ability to record from any given check number. Automatically names file by check numbers.
- \* Complete printout of everything on screen with the press of a button from anywhere in the program.
- \* Visual numeric sort routine. Automatic after keyboard input.
- \* 16K version handles 75 transactions. The 32K version (without DOS) can handle an amazing 400!
- \* Plus many other interesting devices to make checkbook balancing enjoyable, for a change.

Checkbook II does the job RIGHT! Your bad experiences with personal finance programs are over. The Checkbook II is the personal finance program you need. You owe it to yourself to start using Checkbook II now.

CHECKBOOK II  
T80-0015

SHPG WGT: 1 lb. PR: \$18.50 QTY: 1

## M E N U

1. KEYBOARD INPUT
  2. LIST AND EDIT
  3. PRINT WITH BALANCE
  4. SEARCH AND TOTAL
  5. RECONCILE
  6. SORT
  7. INPUT FROM TAPE
  8. OUTPUT TO TAPE
  9. CHECK FILE LENGTH
  10. CLEAR
- WHICH NUMBER? ..

CHK#	DATE	KEYBOARD INPUT TO WHOM	AMOUNT	CODE
710	4/10/79	ATLANTA GAS	34.55	GAS
711	4/11/79	TRS	51.50	SOFT
712	4/11/79	HOME AUTO SALES	3,452.87	AUTO
712.1	4/11/79	DEPOSIT	3,000.00	LOAN
713	4/12/79	RADIO SHACK	125.33	AUTO
714	4/13/79	GEORGIA	43.55	TAX
715	4/14/79	IRS	348.66	TAX
715.1	4/14/79	DEPOSIT	675.87	SAL
716	4/15/79	COMPUTER STORE	123.45	COMP
717	4/20/79	COMPUTER STORE	14.44	COMP
717.1	4/20/79	DEPOSIT-COMPING	500.00	XINC

CHK#	DATE	CHECK BALANCING TO WHOM	AMOUNT	BALANCE
709	4/09/79	GEORGIA POWER	46.78	3,526.64
710	4/10/79	ATLANTA GAS	34.55	3,492.09
711	4/11/79	TRS	51.50	3,440.59
712	4/11/79	HOME AUTO SALES	3,452.87	12.28
712.1	4/11/79	DEPOSIT	3,000.00	2,902.72
713	4/12/79	RADIO SHACK	125.33	2,822.39
714	4/13/79	GEORGIA	43.55	2,818.84
715	4/14/79	IRS	348.66	2,470.18
715.1	4/14/79	DEPOSIT	675.87	3,146.05
716	4/15/79	COMPUTER STORE	123.45	3,022.60
717	4/20/79	COMPUTER STORE	14.44	3,008.16

PRESS ENTER TO CONTINUE.



# TRS-80<sup>TM</sup>

## DISK PACS

### MAIL PAC

- STORES OVER 1200 RECORDS PER DISKETTE (850 ON D.O.S. DISKETTE)
- COMPLETE RANDOM ACCESS
- VARIABLE FIELDS (DOES NOT LIMIT THE LENGTH OF ANY NAME OR ADDRESS)
- SORTS BY LETTER CODE, NUMBER CODE, NAME, STREET ADDRESS, CITY, STATE, ZIP, CODE OR COMBINATION
- ALMOST INSTANT SORTING (INCORPORATES THE EFFICIENT GSF MACHINE LANGUAGE SORT — 30 TIMES FASTER THAN ANY BASIC ROUTINE)
- INDEX ALLOWS FOR INSTANT ACCESS TO ANY RECORD BY NAME OR NUMBER
- COMPLETE MANUAL AND DOCUMENTATION
- PRINTS MAILING LISTS BY NAME OR ZIP CODE (1,2, 3 or 4 ACROSS MAILING LABELS)
- PRINTS COMPLETE MAILING LIST BY NAME OR ZIP CODE (1 RECORD PER LINE)
- CAN BE USED WITH 1, 2, 3 or 4 DISK DRIVES
- REQUIRES 32K or 48K SYSTEM AND GSF OR DOSORT (DESCRIBED IN THE H & E COMPUTRONICS, INC. CATALOG)

### COMPROC COMMAND PROCESSOR (FROM RACET COMPUTES)

- AUTOMATICALLY LOAD AND EXECUTE ANY SEQUENCE OF SYSTEM AND/OR BASIC PROGRAMS AND DATA FROM POWER UP.
- COMMAND FILES CREATED, SAVED AND EDITED IN BASIC
- SOPHISTICATED OPTIONS INCLUDE INTERACTIVE PROMPTING AND SUBSTITUTIONAL PARAMETERS
- ALLOWS NON-COMPUTER PERSONNEL TO EASILY EXECUTE PROGRAMS
- NOW (FOR EXAMPLE) YOU CAN SEE THE DIRECTORY, LOAD A SYSTEM PROGRAM (SUCH AS GSF), LOAD BASIC, LOAD A BASIC PROGRAM (SUCH AS MAIL), AND LOAD A DATA FILE (SUCH AS AN INDEX) — ALL AT THE TOUCH OF ONE-BUTTON (TO TURN ON YOUR TRS-80) THE USER CAN USE COMPROC TO SPECIFY ANY SERIES OF UP TO 9 AUTO COMMANDS.

## **"SOME COMMON BASIC PROGRAMS"** **(FROM THE BASIC BUSINESS SOFTWARE COMPANY, INC.)**

This package consists of 76 Programs which appeared in Osborne & Associates book, "Some Common Basic Programs," which was written by Lon Poole and Mary Borchers. The programs are broken up into four different areas:

- |                |                   |
|----------------|-------------------|
| (1) Statistics | (3) Math          |
| (2) Finance    | (4) Miscellaneous |

This package is useful to many individual needs for it covers a very broad range of applications. On the following page is a list of all the programs which are included in this package.

The programs were originally written in Wang Basic, but we have converted these basic programs to the individual basic languages that we have listed below for sale. All packages include one or more floppy disks, a supplementary instruction manual and may also include the above mentioned book, "Some Common Basic Programs," which does serve as the users manual. This book provides listings of all the programs, example runs and information on how to alter the programs if you desire to change it slightly for a particular need.

### **STATISTICS** **(FROM THE BASIC BUSINESS SOFTWARE COMPANY)**

**The Following Statistics Programs Are Included  
And All Will Run In 8K Of Memory**

- |                                 |                                |                                     |
|---------------------------------|--------------------------------|-------------------------------------|
| 1. Permutations + Combinations  | 9. Power Curve Fit             | 17. Bivariate Normal Distribution   |
| 2. Basic Statistics             | 10. Multiple Linear Regression | 18. Geometric Distribution          |
| 3. Moments, Skewness * Kurtosis | 11. Normal Distribution        | 19. Poisson Distribution            |
| 4. Anova (one-way)              | 12. T-Statistics Evaluation    | 20. Binomial Distribution           |
| 5. Anova (two-way)              | 13. T-Distribution             | 21. Weibull Distribution            |
| 6. Linear Regression            | 14. Chi-Square Evaluation      | 22. Spearman's Rank                 |
| 7. Exponential Curve Fit        | 15. Chi-Square Distribution    | 23. Contingency Table               |
| 8. Logarithmic Curve Fit        | 16. F-Distribution             | 24. Logarithmic Normal Distribution |

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FUTURE VALUE OF PRESENT SUM	AMORTIZATION SCHEDULE
COMPOUND INTEREST	INSTALLMENT LOAD INTEREST RATE
DAYS BETWEEN DATES	TERM OF INSTALLMENT LOAD
PRESENT VALUE OF PAYMENTS	REAL ESTATE INVESTMENT ANALYSIS
NOMINAL-EFFECTIVE INTEREST	INTERNAL RATE OF RETURN
FUTURE VALUE OF DEPOSITS	ALL DEPRECIATION CALCULATIONS
BOND-PRESENT VALUE	BOND-YIELD TO MATURITY
SALE-COST-MARGIN	DAY OF WEEK
MOVING SALES AD	

### EDUCATION

ADD\*\*\*SUBTRACTION\*\*\*MULTIPLY\*\*\*DIVIDE\*\*\*FRACTIONS\*\*\*DECIMALS  
\*\*\*BASE NUMBERS\*\*\*EDUQUIZ\*\*\*PILOT\*\*\*

### GRAPHICS

FRONT COVER\*\*\*WIERD\*\*\*RATRACE\*\*\*RANDOM AD\*\*\*FIRESIDE\*\*\*  
LEFT RIGHT\*\*\*BLOCKS\*\*\*HERRING\*\*\*LAUNCH\*\*\*BLINKER\*\*\*SNOOPY\*\*\*  
SNOW\*\*\*STEP AD\*\*\*GRAPHIC\*\*\*WAR GAME\*\*\*STAR TREK\*\*\*SPEEDY\*\*\*  
LIFE\*\*\*COUNT\*\*\*ROAD RACE\*\*\*FIFTEEN\*\*\*

### HOME

BARTENDER\*\*\*NUTRITION\*\*\*CONVERSION\*\*\*CALENDAR\*\*\*  
BASE CONVERSION\*\*\*CALCULATOR\*\*\*VACATION\*\*\*TELE CODE\*\*\*  
MESSAGE CENTER\*\*\*NIGHT CHECKOFF\*\*\*EXPENSE\*\*\*BABY SITTER\*\*\*  
DRUNKOMETER\*\*\*REMEMBER\*\*\*XMAS LIST\*\*\*MILEAGE\*\*\*

### GAMES

JUMBLE 1\*\*\*SEARCH\*\*\*MEMORY LETTERS\*\*\*STRING RAY\*\*\*  
RUSSIAN ROULETTE\*\*\*WHEEL OF FORTUNE\*\*\*TOWERS\*\*\*DECISION\*\*\*  
MEMORY NUMBERS\*\*\*DOOMSDAY\*\*\*SKETCH\*\*\*FLIPPER\*\*\*STAIRS\*\*\*  
ODD ONE\*\*\*SPY SHIP\*\*\*HORSE\*\*\*SCISSORS\*\*\*CRAPS\*\*\*  
STAR BLAZER\*\*\*TIGER SHARK\*\*\*UNJUMBLE\*\*\*MIND READER\*\*\*  
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THIS PROGRAM WILL DO IT ALL. IT WILL KEEP TRACK OF ALL YOUR MONTHLY BILLS...LET YOU KNOW WHAT BILLS ARE STILL UNPAID...LISTS OUTSTANDING CHECKS...BALANCES YOUR CHECKBOOK AND LISTS ALL DEDUCTIONS AT THE END OF THE YEAR FOR FEDERAL INCOME TAX RETURN.
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FACILITY

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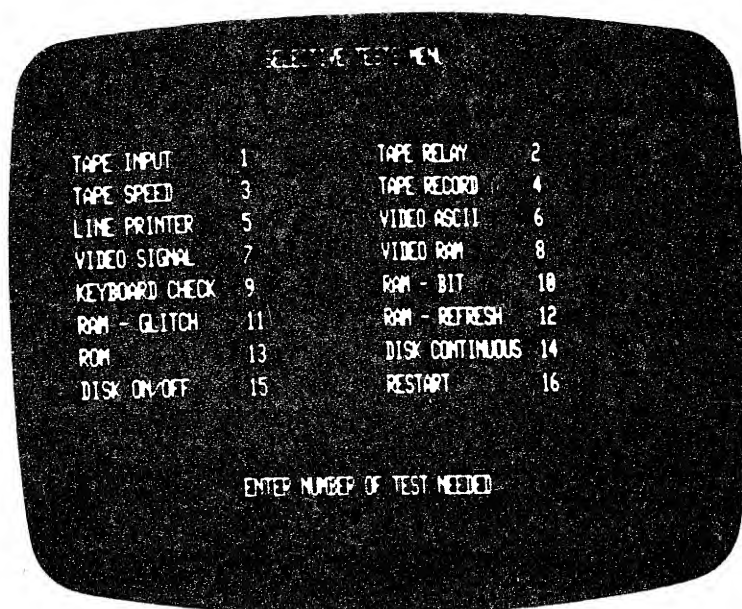
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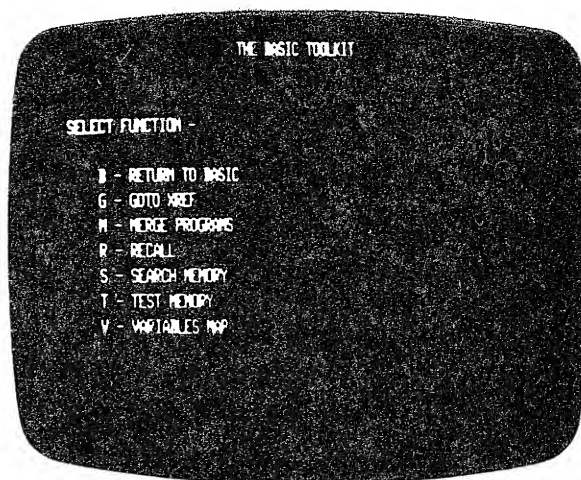
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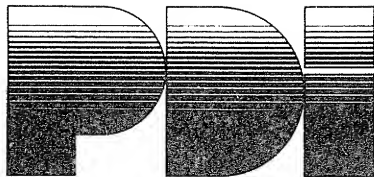
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MON-3  
RSM - 2  
RSM-2D

DCV-1  
BASIC-1  
AIR RAID

## MON-3 MACHINE LANGUAGE PROGRAMMING FOR BEGINNERS

By Dr. Hubert S. Howe, Jr.

- **BEGINNERS** can learn to interact directly with the computer in machine language.
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- **SIMPLE** commands, easy for beginners to use.
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The features of the monitor allow you to do the following things:

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- **SEARCH** through memory to find specific values.
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- **MODIFY** and initialize memory blocks.
- **RELOCATE** object programs.
- **PRINT** output either on video display or line printer.

**MON-3** is a powerful utility program that is as useful for beginners as it is for advanced programmers. Its commands provide you with nearly everything you need to interact with the TRS-80 in machine language. More advanced features include a command that produces a symbolic tape of the disassembly that can be loaded and reassembled using the TRS-80 Editor/Assembler, and a feature that allows object programs that are to be executed anywhere in memory to be saved on disk, even if they run in the same area used by the TRSDOS system.

The program is available only for Level II BASIC computers. Specify whether you have 16K, 32K, or 48K RAM. All versions are compatible with cassette or disk.

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Provides access to all memory locations. You may examine your Basic ROM's, test your RAM, enter and execute machine language programs, read and write machine language tapes.

You can set BREAKPOINTS in your programs, write SYSTEM tapes, READ SYSTEM tapes and display their name and starting address, and PRINT any command with the TRS232 printer interface or the Radio Shack expansion interface! Disk commands (see RSM-2D) are included for future expansion of your system. RSM-2 loads from cassette into the top 5K of memory in Level I or Level II 16K computers so that it can reside in memory with other programs!

## **RSM-2D**

This special disk version of RSM-2 has all the commands of both RSM-1S and RSM-2, including two commands that read or write disk sectors directly! You can read any number of disk sectors into any memory area, or write any memory area to disk! A truly unique tool for use with disk systems. RSM-2D is furnished on disk with three versions that load and run in the top 5K of 16K, 32K and 48K computers. A special loader program prompts you to select the desired version, which then loads and executes. If desired, you can make CMD files of RSM-2D by use of the TAPE-DISK command for direct execution from TRSDOS.

## **DCV-1 CONVERTS MACHINE LANGUAGE PROGRAMS FROM A TAPE TO A DISK PROGRAM**

DCV-1 is a special SYSTEM tape that allows you to convert nearly any machine language program from a tape to a disk program. Nearly all of our software may now be executed from your disk system! This includes RSM monitors, The Electric Pencil, Air Raid, RSL-1, ESP-1 or any program that occupies less than 5K (Larger programs may be handled if you have more than 16K of memory). After DCV-1 is loaded, DCV-1 then loads any SYSTEM tape into memory starting at 6C00 Hex. A short block-move program is added at the beginning of the program, and the parameters necessary to create a disk file are displayed on the screen. TAPEDISK is then used to create a disk file. When accessed, the program loads at 6C00 Hex, moves itself to its correct address, then jumps there and executes! A super accessory for disk systems!

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Level I and II without extra hardware. This program will read a 12K maximum level I program and execute it as is. It is possible to switch back and forth between level I and level II without reloading the program. Works under level II and DOS BASIC. All level I abbreviations are supported.

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AIR RAID is an arcade-type action game that uses the high speed machine language capabilities of the TRS-80. AIR RAID offers enough challenge to keep the attention of the most dedicated of game haters, and has been known to become nearly an obsession to more than one individual. Just about the time you finally achieve that magic score of 10,000, someone points out that you're still playing the game at one of the low speeds!

AIR RAID is played on the TRS-80 video screen. A random sequence of large slow aircraft and small fast aircraft traverse the screen in both directions at seven altitudes. A missile launcher that can be pointed in 5 different directions launches missiles under your command. After launch, the flight path may be modified (if you're fast enough)! When hit, aircraft explode dramatically and the debris rains to the bottom of the screen, destroying any aircraft in its path! On occasion, two aircraft collide, destroying the aircraft and creating a parachute which settles slowly to the ground. These, of course, offer additional targets, but they are much harder to hit than the aircraft. To compensate, a higher score is tallied for parachute hits!

AIR RAID also runs in a continuous demonstration mode, providing an interesting display for shows or computer meetings. AIR RAID will provide hours of fun for you, and is an ideal program for entertaining your friends!

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- **MOVE** any portion of a basic program from one location to another.
- **DELETE** lines or ranges of lines while using the utility.

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- **LOAD** all or any portion of a basic program from tape (CLOAD format).
- **LOAD MULTIPLE** basic programs - renumbering and merging into any location.
- **SAVE** combined/merged programs or any portion of a program to tape.
- **VERIFY** bit-for-bit the contents of saved programs.

AND WITH **COPSYS** YOU CAN:

- **COPY SYSTEM** (machine language object) tapes rapidly and accurately.
- **MERGE** independently assembled object tapes into one load module.
- **VERIFY** bit-for-bit system tapes duplicated by COPSYS.

**REMODEL** is a powerful utility that for the first time allows the TRS-80 user to **RENUMBER** any portion or all of a basic program **MOVE**, any portion from one location to another, or **DELETE** any range of lines. This includes readjusting line number references where required. The user will find REMODEL to be an indispensable tool in program development by assisting in the creation of well organized, readable, and easy to document programs. Specify 16, 32, 48K.

**PROLOAD** extends the power of REMODEL with features to **LOAD** all or any portion of a basic program, **COMBINE** basic programs with renumbering and merging into any location, **SAVE** combined/merged programs or any portion to tape, and to **VERIFY** bit-for-bit the contents of saved programs. Users can now create libraries of BASIC programs or DATA statements which can then be loaded individually or in combination with other programs, thus expanding programming productivity and versatility. Requires REMODEL (16, 32, 48K). Special combined PROLOAD + REMODEL tape.

**COPSYS** is designed to **COPY SYSTEM** tapes (machine language object code) generated from the Radio Shack Editor/Assembler program. COPSYS can be used to duplicate those valuable system tapes before they become damaged.

**TIMSER** is a Time Series Analysis program that fits data to nine different 1st, 2nd and 3rd order curves. Goodness of fit data, tables, including projected data and confidence limits, and graphical displays of curve fit and variance are included. The program provides for correction factors and functions to test seasonal variations, inflation corrections, or cyclical variations. A detailed Users Manual is included complete with illustrated examples.

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## REMODEL EXAMPLES

The examples below illustrate some of the capabilities of REMODEL. A trivial sample program is used to show the status before and after the specified action is completed. User input is underlined and modified areas are shaded.

1. REQUIREMENT: Renumber the entire program using a starting number of 10 and incrementing by 10.

User: START? END? NEW?10 BY?10 MODE? NUM  
Used: START?5 END?125 NEW?10 BY?10 MODE?NUM

PROGRAM BEFORE		PROGRAM AFTER	
5	PRINT 1: GOTO 24	10	PRINT 1: GOTO 20
24	PRINT 2: GOTO 125	20	PRINT 2: GOTO 60
25	PRINT 3: GOTO 63	30	PRINT 3: GOTO 50
50	PRINT 4: END	40	PRINT 4: END
63	PRINT 5: GOTO 50	50	PRINT 5: GOTO 40
125	PRINT 6: GOTO 25	60	PRINT 6: GOTO 30

COMMENTS: Note that default values were supplied automatically for the fields left blank.

2. REQUIREMENT: Move lines #50-63 between lines #5 and #24, renumbering the increments of 10 starting at 10.

User: START?50 END?100 NEW?10 BY?10 MODE?  
Used: START?50 END?63 NEW?10 BY?10 MODE?MOV

PROGRAM BEFORE		PROGRAM AFTER	
5	PRINT 1: GOTO 24	5	PRINT 1: GOTO 24
24	PRINT 2: GOTO 125	10	PRINT 4: END
25	PRINT 3: GOTO 63	20	PRINT 5: GOTO 10
50	PRINT 4: END	24	PRINT 2: GOTO 125
63	PRINT 5: GOTO 50	25	PRINT 3: GOTO 20
125	PRINT 6: GOTO 25	125	PRINT 6: GOTO 25

COMMENTS: Blocks may be moved to any new location as long as there is sufficient room between sequence numbers, as above.

3. REQUIREMENT: Move lines #50-63 between lines #24 and #25.

User: START?25 END?25 NEW?40 BY? MODE?  
Used: START?25 END?25 NEW?40 BY?10 MODE?NUM  
User: START?50 END?63 NEW?30 BY?5 MODE?  
Used: START?50 END?63 NEW?30 BY?5 MODE?MOV

PROGRAM BEFORE		PROGRAM AFTER	
5	PRINT 1: GOTO 24	5	PRINT 1: GOTO 24
24	PRINT 2: GOTO 125	24	PRINT 2: GOTO 125
25	PRINT 3: GOTO 63	30	PRINT 4: END
50	PRINT 4: END	35	PRINT 5: GOTO 30
63	PRINT 5: GOTO 50	40	PRINT 3: GOTO 35
125	PRINT 6: GOTO 25	125	PRINT 6: GOTO 40

COMMENTS: Two steps were required in the above example. The first renumbered line #25 to #40, and the second moved lines #50-63 between #24 and #40 producing the desired result.

REMODEL CAN BE USED IN DOS OR NON-DOS ENVIRONMENT

## PROLOAD EXAMPLES

PROLOAD expands the capabilities of REMODEL as illustrated in the examples shown below. For these examples it is assumed that the following two program are on tape and positioned correctly when needed:

PROGRAM "A"		PROGRAM "B"	
10	PRINT 1: GOTO 30	25	PRINT 4: GOTO 35
15	PRINT 2: END	30	PRINT 5: STOP
30	PRINT 3: GOTO 15	35	PRINT 6: GOTO 30

User input is underlined and areas loaded or saved to tape are shaded.

1. REQUIREMENT: Load program "A" into memory.

User: START? END? NEW? BY? MODE?"A"  
Used: START?0 END?65535 NEW? BY? MODE?"A"

MEMORY BEFORE		MEMORY AFTER	
		10	PRINT 1: GOTO 30
		15	PRINT 2: END
		30	PRINT 3: GOTO 15

COMMENTS: Default values were supplied for the START and END fields. The NEW and BY fields were not used, as a result the statements were not renumbered.

2. REQUIREMENT: Load statements #30 and #35 of program "B" between lines #15 and #30 of program "A", renumbering to #20 and #25.

User: START?30 END?35 NEW?20 BY?5 MODE?"B"  
Used: START?30 END?35 NEW?20 BY?5 MODE?"B"

MEMORY BEFORE		MEMORY AFTER	
10	PRINT 1: GOTO 30	10	PRINT 1: GOTO 30
15	PRINT 2: END	15	PRINT 2: END
30	PRINT 3: GOTO 15	20	PRINT 5: STOP
		25	PRINT 6: GOTO 20
		30	PRINT 3: GOTO 15

COMMENTS: This operation was successful because there was room between statements #15 and #30 for the two lines desired.

3. REQUIREMENT: Save the contents of memory which contains program "A" from lines #15 to #30 to tape, renaming to program "C".

User: START?15 END?30 NEW? BY? MODE?"C"  
Used: START?15 END?30 NEW? BY? MODE?"C"

MEMORY BEFORE		PROGRAM "C" TAPE	
10	PRINT 1: GOTO 30	15	PRINT 2: END
15	PRINT 2: END	30	PRINT 3: GOTO 15
30	PRINT 3: GOTO 15		

COMMENTS: Note that the NEW and BY fields were not used. Any range of lines can be saved to tape. Tapes written can be verified by using the =C= mode as for the example above.

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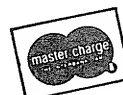
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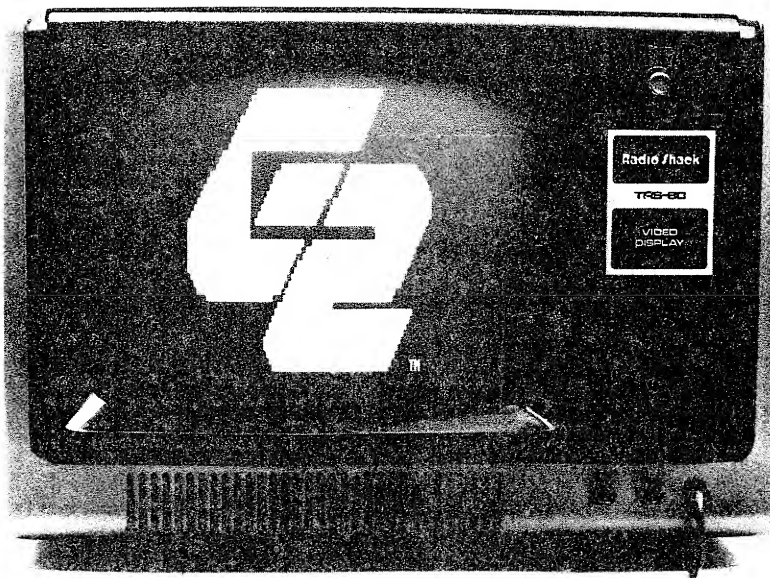
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Don Inman and Kurt Inman

This is the **only** book to describe in detail the machine language monitor operations of the popular Radio Shack TRS-80 computer. Each command is explained and discussed in detail and examples are given to show how the commands may be used. Each step of every sample program is accompanied by a sketch of the corresponding video display for complete "no question about it" understanding of the operations. The examples constitute practical applications which make this book not only instructional, but useful as well.

## REAL TIME BASIC FOR THE TRS-80 (FROM DILITHIUM PRESS)

Don Inman, Kurt Inman and Bob Albrecht

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